

PREDICTIVE MODEL FOR SELF-RELIANCE INTENTION OF MALAYSIAN
POLYTECHNIC STUDENTS

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Dedicated to my parents



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ABSTRACT

Self-reliance intention signifies the actual self-reliance behaviour of students. However, the magnitude of the influence of predicting factors towards self-reliance is not empirically known. The research aimed to investigate the extent to which predicting factors could influence self-reliance intentions and develop a model to predict self-reliance among polytechnic students. The research used quantitative context and employed correlation research design. The tool used for data collection was a set of questionnaires, administered to the final year students of conventional polytechnics in five zones: East Malaysia, central, east, north and south of Malaysia. A total of 650 final year students were selected from these polytechnics. Partial Least Squares Structural Equation (PLS-SEM) were used in the data analysis. Results revealed that perception on the TVET program, technical tendency and economic support, influence self-reliance intention and these factors influences collectively predicted 42 per cent of the students' self-reliance intention. However, the school physical environment support and social support were not found to influence self-reliance intention. The mediation results further revealed that technical tendency has a significant mediation effect on self-reliance intention, social support, physical environmental, economic support and perception on the TVET program. The technical tendency mediation effects predict 48 per cent on self-reliance intention. Social support and physical environment were fully mediated between the mediator and self-reliance intention. The research provides empirical evidence of the significant influence of the research predictive factors toward self-reliance intention. The findings suggest that a combination of theories could be employed to develop a model and the research result could practically be used for curriculum planning in Malaysian polytechnics.

ABSTRAK

Niat untuk berdikari memberi tanda perilaku berdikari sebenar bagi pelajar. Walau bagaimanapun, magnitud pengaruh faktor peramal ke arah perilaku berdikari tidak diketahui. Tujuan penyelidikan ini adalah untuk mengkaji faktor-faktor yang mempengaruhi niat untuk berdikari dan seterusnya membangunkan sebuah model untuk meramal perilaku berdikari dalam kalangan pelajar politeknik. Kajian ini menggunakan penyelidikan kuantitatif dan reka bentuk kolerasi. Instrumen yang digunakan untuk pengumpulan data adalah set soal selidik yang ditadbirkan kepada sejumlah 650 orang pelajar tahun akhir politeknik konvensional dari lima zon berbeza: Malaysia Timur, tengah, timur, utara dan selatan Malaysia. *Partial Least Squares Structural Equation Modeling* (PLS-SEM) digunakan dalam analisis data. Hasil kajian menunjukkan bahawa persepsi tentang program TVET, kecenderungan teknikal dan sokongan ekonomi mempengaruhi niat berdikari, dan faktor-faktor ini secara kolektifnya meramalkan 42 peratus niat pelajar untuk berdikari. Walau bagaimanapun, sokongan persekitaran fizikal sekolah dan sokongan sosial didapati tidak mempengaruhi niat berdikari tersebut. Hasil pengantaraan selanjutnya menunjukkan bahawa, kecenderungan teknikal mempunyai kesan pengantaraan yang signifikan ke atas niat berdikari, sokongan sosial, persekitaran fizikal, sokongan ekonomi dan persepsi terhadap program TVET. Kesan pengantaraan kecenderungan teknikal meramalkan 48 peratus ke atas niat berdikari. Sokongan sosial dan persekitaran fizikal mempunyai kesan pengantaraan penuh dengan niat berdikari. Penyelidikan ini memberikan bukti empirikal tentang pengaruh penting faktor-faktor ramalan penyelidikan ke arah niat kemandirian. Penemuan menunjukkan bahawa gabungan teori boleh digunakan untuk membangunkan model dan hasil penyelidikan praktikal boleh digunakan untuk perancangan kurikulum di politeknik Malaysia.

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LIST OF ABBREVIATIONS

TVET	Technical and Vocational Education and Training
TT	Technical Tendency
EF	Economic Factors
SF	Social Factors
PE	Physical Environment
SR	Self-Reliance
PLS	Partial Least Square
SEM	Structural Equation Modelling
SPSS	Statistical Package for Social Science
EFA	Exploratory Factor Analysis
TBP	Theory of planned behaviour



CHAPTER 1

1.1 Introduction

This chapter introduces the research by giving the background of the problem to be studies. The issues that prompted the study as well as the previous research efforts and their limitations were captured in the statement of the research problem. The purpose of the research, the objectives and research questions to provide answers to the research problem were formulated and presented in the chapter. The hypotheses that the research tested were also presented. The conceptual framework, significance of the research, the scope and delimitations of the research were also presented in the chapter. The research assumptions as well as the terminology and operational definitions were presented. Finally, the chapter concludes by how the entire thesis is organised.

1.2 Background of the study

Every graduate aspires to secure a job or employed immediately after graduation either in the government or private companies. Christie, Cree, Mullins and Tett (2017) indicated that before, there is plenty of job opportunity waiting for TVET graduate. However, from 2007 to date the world is generally facing the problem of the recession that led to unemployment even among the developed nation. For instance, the United States of America (U.S.A) has a deficit of nearly 9 million jobs, and the unemployment rate has been at 7.6 percent or even higher. 7.3% in the United Kingdom and 5.72% in Australia. Youth Unemployment Rate in Japan decreased to 3.20 percent in January 2019 from 3.30 percent in December of 2018. In the Republic of Korea, the youth's unemployment is 3.7 as of 2018 (Dorling, 2018). Malaysia was also affected by the unemployment rate of 3.3 percent as of March 2018 (Nor Aziah, 2018).

Globally, unemployment is becoming increasingly severe since every year many students are graduating from institutions of higher learning. A lot of competition for jobs is causing high unemployment. (Ministry of Education Malaysia, 2015). Many graduates are more interested in government sectors because they consider it to be more efficient and secured. The global economic recession also increases the unemployment rate (Wu, 2011; Hanapi & Nordin, 2014).

Polytechnics and other higher institutions are producing graduates that are job seekers into the labour market thereby unemployment is increasing every day. (Mitra & Arzeni, 2017). Consequently, the country may not be able to generate employment for every graduated youth into labour market straightaway after graduation. Also, increasing in population growth and labour market competition, create unemployment among youth (Ra et al., (2015). When youths do not find employment despite their best efforts and qualifications, they get irritated and feel disappointed (Ngure, 2015). When jobs and services are insufficient, it becomes difficult for the government to employ a sufficient number of all graduated youths (Burchell et al., 2005). Thus, unemployment leads to societal problems that could negatively affect the whole community. Typically, an unemployed person is dependent on the family members and the community as a whole. Narjaikaew (2013) narrated that, the worse part of the unemployed person, is to be engaged in crime and violence in the community. It also brings dishonour, idleness and increase in the rate of suicide attempts and the actual suicides as well in the communities. At this point, employability favours TVET students since they possess some employability skills. Employability Skills can be defined as the transferable skills needed by an individual to make them employable. Along with excellent technical understanding and subject knowledge, employers often outline a set of skills that they want from an employee (Ofori, 2018). These skills are what they believe will equip the employee to carry out their role to the best of their ability. Employability depends on your knowledge, skills and attitudes, how you use those assets, and how you present them to the employers. Employability skills are vested in the TVET program being offered in technical institutions. Therefore, such a problem of unemployment and the related issues, employability are needed to be addressed (Acheampong, 2019).

Technical vocational education and training (TVET) system are designed to help students become successful worker by providing needed skills required for career developments. TVET was defined by UNESCO, (2013) as a comprehensive term

referring to those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding, and knowledge relating to occupations in various sectors of economic and social life. Thus, the primary purpose of TVET programmes is the acquisition of relevant knowledge, practical skills and attitudes for gainful employment in a particular trade or occupational area. Significantly, TVET programmes are as a veritable instrument for empowerment for youths, and it enables youths to acquire skills and knowledge to promote career development. TVET is delivered in the technical institution and play an essential role in equipping young people to enter the world of work and in improving their employability throughout their careers.

The polytechnics are institutes of technical education that plays a role in developing students on technical skills. (Annamalai, Othman & Dan Abdullah, 2012). Polytechnic programs offer strategic job connections, hands-on learning environments, and proven career paths. Polytechnics play an essential role in human resource development of a country by creating skilled labour, enhancing productivity and improving the quality of life through some technical program such as engineering, architecture, town planning, management, pharmacy, hotel management and many more. In addition to academic knowledge, the Polytechnics also emphasise the acquisition of specific essential life skills for career development (Scheel & Aguiñaga, 2015).

Students of Polytechnic received and applied learning opportunities in the government and public service sector. Students get in-depth learning appropriate to the employer. Polytechnic engages students in the applied research to support innovation by employers and providing students with the opportunity to develop critical thinking skills (Jorre de St Jorre & Oliver, 2018). Students are given the opportunity to gain practical experience and life skills in a real work environment. (Elbaz, 2018). Technical institutions especially polytechnic provides technical and soft skills to enable students to be employable either by government or self-employed.

Unemployment also occurs among TVET graduates youths with technical and vocational skills (Ahmed, Campbell, Beg, & Capretz, 2015). By realising this situation, Bowen, (2018) observed that self-reliance, skills and technical education educational system can prepare students to be self-reliant individuals in the community. Self-reliance is viewed, as the ability of an individual to think and act

without the help or influence of others (Smith, Mackie & Claypool, 2014). Self-reliance helps graduates to secure a job for themselves by initiating work and services with the help of skills they acquired from various technical institutions. The research focused on student's self-reliance intentions, because intentions reflect the motivational factors that influence the prediction of behaviour based on Knowledge and TVET (Gari, 2015). In addition, the research is interested in developing a model that could describe self-reliance intentions which could be useful for practical purposes. However, various intention models are proposed by researchers. For instance, Fishbein intention model often produces weak and inconsistent predictions (Krueger, 2017). The model is designed to represent the effect of attitudes and subjective norms on behavioural intentions (Freire, 2018). A new self-reliance intention model was intended to be developed and tested.

Thus, both technical and soft skills could be a means of employability among TVET students. The employment could be in the government organisation or self-employed in a situation where an individual can depend on his own such as self-reliance. Self-reliance means reliance on one's efforts and abilities (Shaik & Goodrich, 2018). According to Chea and Huijsmans (2018) when somebody acquires skills in any occupation, such person can establish his or her own business and even employ others, such person according to him is self-reliant. It leads to national development and pre-supposes the attainment and autonomy without unnecessarily resorting to begging or browning (Fadzil & Shaat, 2017). He emphasised that a self-reliant individual is one that achieves a steady supply of his needs, one that diversifies his resources to reduce dependency on others for assistance.

Considering the importance of self-reliance, many researchers developed a model of self-reliance. However, the existing model such as theory of planned behaviour (TPB) of self-reliance intention was found to be weak in predicting intentions (Mijoč, Stanić, & Horvat, 2016). Moreover, the application of only one theory could not be enough to predict complex behaviour of students with a complex environment. A new model that could include some theories to cater for the complexity behaviour of students need to be developed. The development of new model could be done after finding the empirical contributions of the research factors.

Self-reliance could affect by some factors such as family background (e.g. neglect and low socioeconomic status), exposure in school (e.g. a sense detachment, academic failure and teachers' insufficient understanding) and

environment/community (e.g. lack of social support and discrimination) usually have an impact on self-reliance intentions. (Jain & Cohen, 2013). Similarly, findings by von Soest, Mossige, Stefansen & Hjemdal (2010) explained that there is a relationship between self-reliance and students' skills. They further clarified that; student's self-reliance could be achieved by understanding the factors that support self-reliance. Thus, it's important to investigate these factors influencing self-reliance behaviour, particularly among TVET students.

For instance, the TVET program contributes toward self-reliance intentions among TVET students (Wright & Wrigley, 2017). However, it is not known how TVET students perceived the TVET program as machinery for achieving self-reliance. TVET programs perception is one of the factors that could influence self-reliance. It is the understanding and interpretation of TVET programs towards self-reliance (Huda, Jasmi, Alas, Qodriah, Dacholfany & Jamsari, 2018). TVET program perception is the identification of the provisions of TVET education, skills, knowledge and attitudes to a TVET student for self-reliance and career development (Lee, Gomez & Yacob, 2013). TVET program perception was employed in the research to investigate the understanding of TVET students particularly polytechnic toward self-reliance.

The technical tendency is another factor that could influence a student's self-reliance intention. Technical tendency is the inclination or likelihood of demonstrating practical knowledge (Schewe, 2016). It is vital to investigate technical tendency as an attitude that could influence and predict student's self-reliance intention. Attitudes are usually predictors of the actual behaviour of a particular individual. Thus, the technical tendency would demonstrate the accepted measures of attitude in terms of behavioural prediction (Abdul Kadir, Rahim, Mustapha, Abdul Mutalib, Kee & Mohamed, 2012).

The technical tendency was employed as a mediator; the mediating variable transmits the effect of an independent variable on a dependent variable. It was used to understand a known relationship by exploring the underlying mechanism or process by which one variable influences another variable through a mediator variable (Koe, Alias, Ismail & Mahphoth, 2018). Practically, the technical tendency as a mediator was employed to understand the relationship between the TVET program perception, social support, economic support, and school physical environment support and self-reliance intention. The technical tendency is a realistic attitude of a student's mind (Schewe, 2016).

Mediation effect test was intended, because the result of similar research by Mijoč, Stanić & Horvat (2016) indicated that, the correlations between the independent variables and the dependent variable are not high on the direct relationship between knowledge and skills for career development and student's intentions of self-employment. For this, mediation effect of student's attitude of technical tendency was employed as a mediator between the dependent variable (self-reliance intention) and the independent variables (TVET programs perception, social support, economic support and school physical environmental support) for further investigation.

Student's economic support is a financial aid given to an individual student; it is financial assistance that can come in some forms including scholarships, grants, and loans. Economic Support promotes individual and family self-sufficiency and unity (Bianchi, 2017). Economic support influence such as government economic policies, parental economic status, capital, investment and many more are vital when discussing issues about development at the individual level or the whole nation (Poynton & Lapan, 2017). Economic support a student's academic life and development in the school or outside. Wu (2018) added that economic support is the major factor leading to student's progress. Hence, it is essential to investigate the relationship between the economic support and student's self-reliance intention-behaviour because measuring economic factors and intentions behaviour could predict and provide the appropriate decision on the relationship whether the factor is supportive or unsupportive on the student's self-reliance intention (Mussner, Strobl, Veider & Matzler, 2017).

Student's school physical environment support refers to provisions and access to physical materials such as the school building and all its contents including physical structures (Hutchison, 2018). Student's physical environmental support could also influence a student's self-reliance (Zaske, 2018). The physical environment could predict a student's intended behaviour of student's self-reliance. Students continuously interact with their physical environment, in which it may influence student's behaviour. Thus, the research was intended to investigate to what extent to which student's school physical environment influence student's self-reliance among polytechnic students in Malaysia.

1.3 Statement of the problem

The United Nations Educational, Scientific and Cultural Organization (UNESCO) and International Labor Organization (ILO), suggested the direction to fulfill the government and individuals' aspiration of getting employment and through TVET (Kariuki, 2018). For this reason many countries emphasized TVET programs in their institutions. As a result of that many TVET graduates were produced to cater the problem of unemployment. However, nowadays there are many TVET graduates that could not get an employment after graduation due to population growth and job competitions (Naala, Nordin & Omar, 2017)). For TVET graduates to get employment many countries engaged into the study of self-reliance as solution to the problem of unemployment (Grealish, Tai, Hunter, Emsley, Murrells & Morrison, 2017). Consequently, researchers embarked studies on self-reliance among TVET institution including polytechnics. Issues related to self-reliance such as intention, theories and models were studied. This research was aimed to study self-reliance intention and developed a predictive model for self-reliance intention, because intention is the prerequisite of the actual behaviour.

There are several existing predictive models for self-reliance intention. However, the models lack strong predictive capacity of self-reliance intentions. Researchers employed a single theory particularly the Theory of Planned Behaviour (TPB), conative theory or social cognitive to developed a self-reliance intention model. Each of this theory is being challenged in terms of predicting capacity of intentions.

The existing TPB models, employed attitude towards behaviour, perceived behaviour control and subjective norms to predict intentions (Ajzen, 1991), however, one of the weakness of TPB is that, it assumes that behaviour is the result of a linear decision-making process only, and does not consider issues that, can change over time, the time frame between intent and behavioural action is not addressed by the theory (Huet, Rigolot, Xu, De Cacqueray-Valmenier & Boisdon-Roquefeuil, 2018). It still does not take into account environmental or economic factors that may influence a person's intention to perform a behaviour (Pavlova & Chen, 2017). Moreover, the intention models that employed TPB only were mostly found to be a weak predictor of future behaviour on intentions of TVET students (Uchenna, Olaitan & Omeje, 2018;

Parris, Varjas, Meyers, Henrich and Brack, 2019). It assumes the person has acquired the opportunities and resources to be successful in performing the desired behavior, regardless of the intention. The time frame between "intent" and "behavioral action" is not addressed by the theory. The previous research identified factors predicting self-reliance intention among TVET students (Rosique-Blasco, Madrid-Guijarro & García-Pérez-de-Lema, 2018; (Uchenna, Olaitan & Omeje, 2018; Zabelina, Tsiring & Chestyunina, 2018). However, the reality of self-reliance intention left many unanswered questions about the wide gaps were identified above.

Furthermore, conative theory is employed to predict intentions. Basically, conation is any natural tendency, impulse or directed effort towards a behaviour (Du Preez, 2018). It is the personal, intentional, goal-oriented theory to predict a behaviour (Omar, Mohamad, Paimin & Mukhtar, 2018). The theory emphasised that, an individual should intrinsically controls his own actions and intentions. Nevertheless, apart from intrinsic control of intention towards action, environment also played an impacts on an individual's intention towards actions. One reason the study of conation has lagged behind the study of behavior is that it is intertwined with the study of other domains such as affective and cognitive, often difficult to separate (Stylos, Vassiliadis, Bellou & Andronikidis, 2016). In addition, children may be denied use of their conative instincts based on the perceptions that opportunities are not available (Fischer, 2018). Hence, conative theory need to be applied practically and empirically to investigate its impact on students. However, conative theory alone cannot adequately predict and individuals' intention. In addition, because conation is the aspect of the mind that deals directly with action, it is possible for actual behavior to be out of alignment with thinking and feeling. Thus, conative theory model cannot accurately predict behaviour into actions. Practically, the research employed student's tendency as an aspect of conation. The belief, confidence and efficacy of the technical tendency to promote self-reliance intention about conation, was intended to be investigated.

Moreover, the theory of social cognition suggests that helping students to be successful is one of the best ways to assist the learner (Webber-Ritchey, Taylor-Piliae & Loesch, 2018). The experiences are the most profound influence on self-efficacy, which subsequently predicts future success in that domain (Liguori, Bendickson & McDowell, 2018). In social cognitive theory, individual's behaviour does not only results from traits only but rather from social and physical environments. However, social cognitive model assumes that changes in the environment will automatically

lead to changes in the person, when this may not always be true. The theory does not focus on emotion or motivation, other than through reference to past experience. There is minimal attention on these factors. The theory is loosely organized, based solely on the dynamic interplay between person, behavior, and environment. It is unclear the extent to which each of these factors into actual behavior and if one is more influential than another. Though, the research considers social, economic and physical environment support, to investigate how they influence self-reliance intentions. Demographic information also provides some social engagement of students' behaviour by examining their personal and parental status information.

Investigating the intention of individual TVET students to be self-reliant could yields to develop a strong predictive model for self-reliance intentions for Malaysian polytechnics. The integration of theories such as TPB, conative and social cognitive provide the research with variables of study. TPB provides, beliefs in TVET to predict self-reliance intention, conative theory offers technical tendency towards self-reliance intention. Social cognitive provides social, economic and physical factors, to investigate how they support self-reliance intentions. The integration of these theories could lead to the development of new model for self-reliance intention. This is in the attempt to develop a strong self-reliance intention model for students in Malaysia.

Discrepancies were identified between the theoretical factor and actual factors predicting self-reliance among TVET students (Ojiaku, Nkamnebe & Nwaizugbo, 2018). Empirically, little is known about the practical impact of factors influencing self-reliance intention. If this discrepancies between theory and practical differences is not addressed the information gap will increase over the years (Hammer and Spiker 2018). Thus, the research was intended to investigate the practical contributions of research factors toward self-reliance intention in attempt to bridge the gap between theory and practice.

Many researchers in the attempt to investigate predictive model for self-reliance intention, employed regression analysis. But, regression only looks at linear relationships between dependent and independent variables (Norouzian & Plonsky, 2018; Vicente, Verdugo, Gómez-Vela, Fernández-Pulido, Wehmeyer & Guillén, 2019; Flach & Warren, 2018). That is, it assumes there is a straight-line relationship between them. Moreover, it is assumed that the cause and effect relationship between the variables remains unchanged (Schmidt & Finan, 2018). This assumption may not always hold good and hence estimation of the values of a variable made on the basis

of the regression equation may lead to erroneous and misleading results (Flach & Warren, 2018). Nevertheless, the traditional regression could not explain the complex model. The research based on relationships of the variables, a complex model could not be developed. Still, the contributions of each variable is not precisely known in the structural model. In the view of this, Partial Least Square Structural Equation Modelling (PLS-SEM) was employed to develop a student self-reliance intention model. Likewise, PLS models give precision in assessment of measurement model and structural assessment model. Also, PLS path modelling is flexible; it allows both formative and reflective constructs, latent variables in one model (Henseler, Hubona & Ray, 2016). The PLS-SEM was used in this study to confirm the prediction model and explain the variance of the key constructs for decisions. The PLS-SEM is robust because it is suitable to address the relatively big or small samples. The research intended to develop a predictive model for self-reliance intention based on variables prediction.

A model of self-reliance intention could provide the blueprints of a self-reliance action (Chea & Huijsmans, 2018). Intentions for self-reliance determines the decision to pursue self-reliant as a career choice, which provides support for the use of research models in which intentions are the best predictors of this specific behaviour (Marshall & Gigliotti, 2018). According to Thompson and Bolino (2018), the model provides a template that guides in specifying and constructing the behavioural system among students. The self-reliance intention model could be employed to know the practical contributions of each variable on self-reliance intention. Issues that led to unemployment could be addressed. For instance, the rapid increase in population and changes in technology and increased in job competition could not be affected by unemployment if skilled students are self-reliance. The increasing rate of unemployed graduates is one of the issues that trigger the world and Malaysians concern lately (Hanapi & Nordin, 2014).

Alternatively, the TVET students could cushion the effect of unemployment through self-reliance. TVET focuses on self-reliance and employability components of its future graduates (Marshall & Gigliotti, 2018). The future of the country does not solely depend on educated personnel, but on having a large pool of skilled personnel that can handle the rapidly changing world (Frey & Osborne, 2017; Awang, Sail, Alavi & Ismail, 2015). The study was intended to be conducted among TVET students, particularly polytechnic students in Malaysia. The previous studies of this kind were

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